

Birbal Sahni Institute of Palaeosciences
Monthly Summary of Research Activities
(November 2024)

1. Area of Focus

The institute carries out research on fundamental as well as applied aspects of Palaeosciences that includes Evolutionary history of biota, Paleoclimate, studies of past civilization, Human history and contemporary Climate Change issues, following an integrated and multi-disciplinary approach.

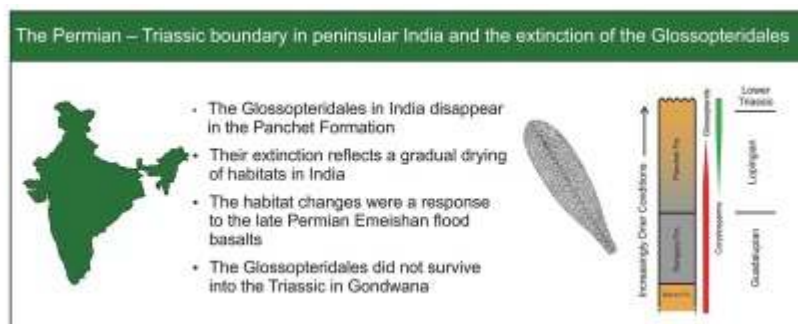
Key research activities under following objectives:

- ☐ Understanding origin and evolution of life through time and space.
- ☐ Understanding climate change in recent and deep geological times.
- ☐ Understanding past civilization and human history.
- ☐ Application of Palaeosciences in exploration of fossil fuel and coal industry.

1. Important Highlights of Major Research Activity

a. Key Scientific Findings of the Month (November 2024)

The Glossopteridales was a distinctive order of gymnospermous seed-plants that occurred widely in the Permian of Gondwana. Some authors have suggested that they may also have occurred in the Triassic and so had survived the catastrophic Permian – Triassic extinction event. This suggestion was mainly based on records from peninsular India such as from the Panchet Formation, which traditionally was regarded as Triassic in age. This paper reviews the evidence for a Triassic age for these floras and it is argued that they are in fact late Permian. There is no clear evidence that the Glossopteridales survived the P/T biotic crisis in India and only unequivocal evidence is in China that they survived into the Triassic (Saxena et al 2024).



b. BSIP Director's Interview on 'Akash Vani' Lucknow Radio (26 Oct 2024)

Director BSIP, Prof. Mahesh Thakkar gave an interview on 'Career Prospects in

Palaeosciences' in a program 'Vigyan Jagat' conducted by Shri Praveen Kumar at NEWS ON AIR, 'Akash Vani' Lucknow.

c. Vigilance Awareness Week (28 Oct-03 Nov 2024)

BSIP celebrated the vigilance awareness week from 28 Oct to 03 Nov 2024 at its campus commemorating "Culture of Integrity for Nation's Prosperity". Director BSIP along with all scientific & administrative staff took oath led by Dr. Shilpa Pandey, Scientist-E and CVO (additional charge), BSIP during oath taking ceremony. Oath Ceremony was followed by speech competition on "Anti-corruption: Challenges & its impact on the Society" to raise awareness about integrity driven practices towards a transparent & prosperous India.

d. Plantation drive under Swachhta Hi Sewa Awareness (29 Oct 2024)

Under Special Campaign 4.0, BSIP staff participated in Plantation drive at Govt. school Shahganj on 29-10-2024 to spread the message of 'स्वच्छता ही सेवा'.

e. Organization of PhD Thesis Final Viva-Voce

Pooja Nitin Saraf, DST Inspire SRF successfully defended her PhD thesis on "Species distribution modeling to project the past and future potential habitats based on current distribution of the tropical deciduous forest species in India" under the supervision of Dr. Jyoti Srivastava, Scientist-D BSIP and Prof. François Munoz, Université Claude Bernard Lyon.

f. IISF 2024 Curtain Raiser Event (08 Nov 2024)

BSIP organized curtain raiser event of IISF 2024 at its campus on 08 Nov 2024. The chief guest of the function was Dr. Bhaskar Narayan, Director CSIR-IITR, Lucknow and Shri Ashutosh Singh, Prant Mantri, Vigyan Bharti, graced the occasion as Guest of the honour. The event was attended by all scientists, research scholars and administrative staff. On this occasion, Dr P S Ranohtra, Scientist-E, BSIP delivered a lecture on "Himalayan Odyssey "Climate Change Perspectives".

g. Recognition/Awards/Prizes

Dr. Veeru Kant Singh, Scientist-E has been elected as a voting member of the International Subcommission on Ediacaran Stratigraphy (ISCS), a subsidiary of the International Commission on Stratigraphy (ICS) of the International Union of Geological Sciences (IUGS) for a period of four years from 2024-2028.

h. Invited Special Lecture

Prof. Dr. Thijs van Kolfschoten, Past President of INQUA, delivered an insightful lecture on "INQUA and its contribution to the Quaternary Research community." After an inspiring lecture, Prof. Dr. Thijs van Kolfschoten visited the BSIP labs to explore ongoing research firsthand. Great exchange of ideas on Quaternary studies and future research collaborations.

i. Founders' Day Celebration (14 Nov 2024)

Birbal Sahni Institute of Palaeosciences (#BSIP) celebrated Founders' Day on November 14, 2024, marking the 133rd birth anniversary of Prof. Birbal Sahni. Honoring his legacy, the event highlighted advancements in Palaeosciences. Prof. Dr. Thijs van Kolfschoten, Past President of INQUA, delivered 54th Prof. Birbal Sahni Memorial Lecture on "Lower Palaeolithic Hominin subsistence and behavior". Prof. Anindya Sarkar, IIT Kharagpur, delivered 66th Sir Albert Charles Seawart Memorial Lecture on "Isotopes, Archaeology and Climate: Decoding 3000 years history of India". The event was attended by entire scientific staff, administrative staff and former BSIP alumni and PhD students.

j. Extension Center BSIP (03 Nov 2024)

BSIP Director signed an MOU of opening an Extension Center of BSIP at KSKV Kachchh University, Kachchh for facilitating geoscience research in rich geodiversity of Kachchh region.

k. IUGS Heritage stones: Indian contributions

BSIP director Prof. Mahesh Thakkar, delivered a keynote address at a conference on "IUGS Heritage stones: Indian contributions" Dept of Geology, BHU Varanasi.

l. 2nd International Conference on Innovation in Science and Technology

Prof. Mahesh G. Thakkar, Director BSIP, graced Maharishi University as the Chief Guest at the 2nd International Conference on Innovation in Science and Technology for Sustainable Development

List of Research Publications (November 2024)

Original Articles/Reviews/Book Chapters

1. Anjali Trivedi, Shailesh Agrawal, Anupam Sharma, Sheikh Nawaz Ali, M.C. Manoj, Anupam Nag, Sandhya Misra, Masud Kawsar, 2024. Climatic Oscillations and Dynastic Trends: A Multiproxy analysis of the past two millennia in the Indian Subcontinent, *Catena*, 246, 108424. <https://doi.org/10.1016/j.catena.2024.108424>.
2. Quamar, M. F., Dubey, J., Tiwari, P., Das, P. K., Thakur, B., Javed, M., Prasad, N., Maneesha, M. E. T., & Sangode, S. J. (2024). Hydroclimatic Changes Revealed by Multiple Proxies Since the Last Glacial Maximum from the Core Monsoon Zone of India. *Quaternary*, 7(4), 52. <https://doi.org/10.3390/quat7040052>.
3. Mishra, S., Bansal, M., Prasad, V., Singh, V.P., Murthy, S., Parmar, S., Utescher, T. and Khangar, R., 2024. Did the Deccan Volcanism impact the Indian flora during the Maastrichtian? *Earth-Science Reviews*, p.104950.
4. Negi, R.S., Vinn, O., Singh, B.P., Bhargava, O.N., & Iskar, M. (2024). Gastropod, cephalopod, and tentaculid fauna from the Takche Formation (Ordovician-Silurian), Tidong Valley, Kinnaur Himalaya. *Historical Biology*, 1–8. doi.org/10.1080/08912963.2024.2421283.
5. Anju Saxena, Christopher J. Cleal, Kamal Jeet Singh. 2024. The Permian – Triassic boundary in Peninsular India and the extinction of the Glossopteridales. *Gondwana Research*, 137, 318-330. <https://doi.org/10.1016/j.gr.2024.10.005>.

Photographs showing important highlights of major programs/research activities organized during November 2024:

